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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,435	10/18/2000	Herbert Heiss	P00,1528	8860

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EXAMINER	
NGUYEN, ALAN V	

ART UNIT	PAPER NUMBER
2662	8

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/673,435	HEISS ET AL.	
	Examiner	Art Unit	
	Alan Nguyen	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18 -24, 26-29, 31, 32, and 35* is/are rejected.

7)☒ Claim(s) *25, 30, 33, and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations must be shown clearly through an ordered process diagram, such as a flowchart, or the features canceled from the claims 18 and 35. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 18 -24, 26-29, 31, 32, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Nattkemper et al (US 6,754,206) hereafter Nattkemper.

Regarding **claims 18 and 35** Nattkemper discloses a method for removal of ATM cells from an ATM communications device **(the process of discarding selective ATM cells; col 4 lines 20-25)**, comprising:

Nattkemper discloses providing a plurality of ATM cells, a plurality of which are in each case assigned to a common frame and which are stored in connection-specific queues **(different streams are classified into different queues; col 14 lines 40-54)**;

Nattkemper discloses providing a first algorithm by means of which, with the exception of a first and a last ATM cell in a frame, all newly arriving cells in the frame are removed **(switching system implements packet discarding policies including partial packet discard PPD; for example see col 15 lines 1-30)**;

Nattkemper discloses providing a second algorithm by means of which all the ATM cells in a frame, from a first cell to a last cell, are removed upon arrival queue from the ATM communications device **(switching system implements packet discarding policies including early packet discard EPD; for example see col 15 lines 1-30)**;

Nattkemper discloses at a start of a transmission process, indicating by a user a maximum number of ATM cells per frame, and transmitting the ATM cells using said maximum number **(switching system 100 utilizes certain thresholds to indicate congestion; col 14 lines 15-53)**; and

Nattkemper discloses when said maximum number exceeded, discarding the associated frame or using the first algorithm **(during congestion certain cells are discarded using early or partial packet discard techniques; for example see col 14 lines 53-67 and col 15 lines 1-15)**.

Regarding **claim 19** Nattkemper discloses where of a length of the queue is controlled on a connection-specific basis **(buffer capacity based on type of stream; see col 17 lines 55-67 and col 18 lines 1-17)**.

Regarding **claim 20** Nattkemper discloses where a constant value is used per connection, which is a measure of a maximum frame size of the connection **(during system run-time a single fixed size buffer is used; see col 27 lines 30-37)**.

Regarding **claim 21** Nattkemper discloses where, per connection, a number of the cells which have arrived for said connection since an end of the last frame for said connection is stored **(When no levels are triggered, then all ingress called are enqueued to their respective buffer attachments; col 10 lines 54-67 and col 12 lines 1-15)**.

Regarding **claim 22** Nattkemper discloses where no high-priority cells are stored for a connection if a length of the queue for said connection is equal to a value which is independent of said connection and which represents a measure for a fixed upper limit for the queue **(when the queue reaches it occupancy limit, the cells coming into the queue are discarded; col 49 lines 15-50)**.

Regarding **claim 23** Nattkemper discloses where if high-priority frames do not exceed the maximum number of cells per frame, the first algorithm is not used for the frame **(if**

higher priority traffic classes remain within the limit, packet discard would not be used; col 15 lines 1-20).

Regarding **claim 24** Nattkemper discloses where a specific portion of a buffer store is reserved for high-priority cells per connection, and low-priority cells are not given any access to said specific portion of store **(Certain buffers are reserved for only high priority streams such as CBR and VBR; see col 21 lines 1-30)**.

Regarding **claims 26 and 27** Nattkemper discloses where high- priority frames are completely discarded if, on arrival of a first cell of a connection, or on arrival of a cell which is neither first last cell a frame, less than a maximum number of cells per frame MFS remains in the logic queue for this connection, or the logic queue exceeds a threshold and a status of a buffer store indicates that high-priority frames should be discarded, where MFS stands for maximum frame size **(when the queue reaches it occupancy limit, the cells coming into the queue are discarded; col 49 lines 15-50)**.

Regarding **claim 28** Nattkemper discloses where low-priority frames are completely discarded on arrival of a first cell of the connection, a length of the queue for this connection is greater than a variable S PPD-I the length of the queue is longer than a value S EPD-I and a status buffer store indicates that low-priority frames should be discarded, where PPD represents partial packet discard and EPD represents early

packet discard **(all cells going into the low priority queues are discarded when it is considered to be in the L3 congestion mode, which is when the length of the queue exceeds a threshold; col 10 lines 30-54 and col 12 lines 1-15)**.

Regarding **claim 29** Nattkemper discloses where some low-priority frames for a connection are discarded on arrival of a cell which is neither a first nor a last cell in a frame, a length of the queue for said connection is greater than a variable S-PPD-I - 1 or the length of a queue is greater than a variable S-PPD-I and a status of the buffer store indicates that low-priority cells should be discarded or if the frame is longer than the maximum number of cells for frame size, where PPD represents partial packet discard **(all cells going into the low priority queues are discarded when it is considered to be in the L3 congestion mode, which is when the length of the queue exceeds a threshold; col 10 lines 30-54 and col 12 lines 1-15)**.

Regarding **claim 31** Nattkemper discloses where filling level of a buffer store is low, high-priority frames and low-priority frames whose first has been transferred and whose frame length does not exceed the maximum number of cells per frame are not subjected to the first algorithm **(When no levels are triggered, then all ingress called are enqueued to the buffer attachments; col 10 lines54-67 and col 12 lines 1-15)**.

Allowable Subject Matter

4. Claims 25, 30, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding **claim 25** the cited references taken individually or in combination fails to particularly disclose where the combination of where no low-priority cells are stored for a connection if the length of the queue for said connection is of at least one size S-PPD-1 = S-EPD-I + MFS, where S-EPD-I is independent of said connection and a maximum number cells per MFS depends on the connection, where PPD represents partial packet discard, EPD represents early packet discard, and MFS represents maximum frame size.

Regarding **claim 30** the cited references taken individually or in combination fails to particularly disclose where the combination of where a queue-specific value S-EPD O is greater than a value S-PPD-I and less than a value S-PPD-O + MFS where MFS is the maximum number cells per frame, and the value S-PPD-O represents a measure for a fixed upper limit for the queue, where MFS represents maximum frame.

Response to Arguments

5. Applicant's arguments with respect to **claims 18-35** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to frame detection and packet discarding in ATM networks:

US Patent (6,345,037) to St-Denis et al

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 703-305-0369. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
August 5, 2004

JOHN PEZZLO
PRIMARY EXAMINER